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Overboard

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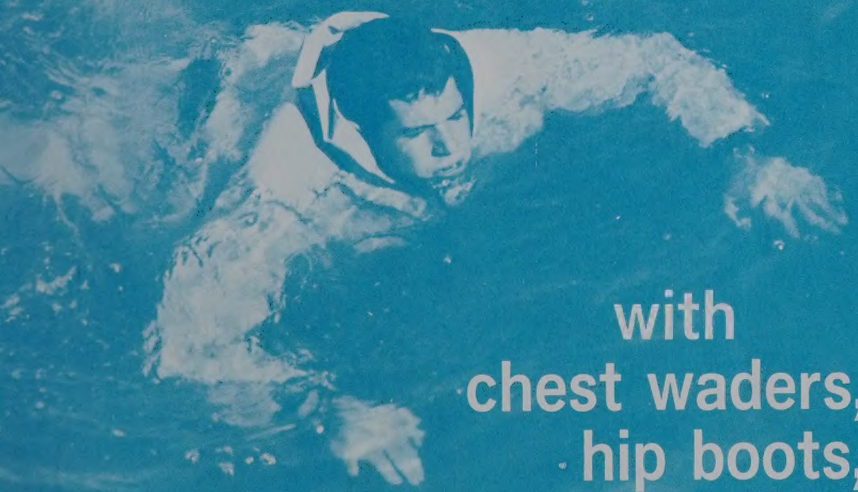

with chest waders, hip boots, or rain gear

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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL MARINE FISHERIES SERVICE
Fishery Leaflet 635

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By
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Fishery Leaflet 635
Washington, D.C.
February 1971

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402 - Price 10 cents

Overboard with Chest Waders, Hip Boots, or Rain Gear

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ABSTRACT

Neither chest waders, hip boots, nor rain gear will cause you to drown if you don't panic. Waders, the most dreaded of the three, can actually be the safest. If you are wearing bulky clothing in addition to your boots and do nothing after you enter the water, you will float.

INTRODUCTION

If I fall overboard feet first or if I wade into a hole over my head, will my waterlogged boots[1] and clothing cause me to sink? If I plunge in head first, will my boots and clothing trap air and cause me to float head down? The answers to these questions are of grave concern to sportsmen, commercial fishermen, and biologists. Most of us have heard the "answers" from various sources, often with vivid examples of personal experiences. But what are the facts? As a sportsman and a biologist, I am a frequent user of this equipment and have repeatedly been asked what to do in case of an emergency.

To demonstrate to myself and to others what actually happens under these circumstances and what can be done about it, I carried out a series of simulated accidents in the harbor at Beaufort, N.C. In most instances I wore a pair of trousers, sweat shirt, and winter jacket in addition to the boots and rain gear (fig. 1).

[1] Boots in this leaflet include chest waders, hip boots, and knee boots.

Figure 1.--Equipment used in simulated accidents.

Figure 2.--Temporary buoyancy results from air trapped in clothing and rain gear.

FEET FIRST

When you fall feet first into the water, air is forced out of your boots but is often trapped in your clothing, thus creating temporary buoyancy (fig. 2). Thrashing around in the water will not only tire you but will also cause you to lose this buoyancy. If you are wearing trousers and a T-shirt when you enter the water instead of bulky clothing, no air will be trapped in your clothing and you could sink several feet; however, it is a simple matter to return to the surface by raising your arms overhead, cupping your hands, and then pulling them to your sides at moderate speed. Using your legs in this situation is a waste of energy and time, because the shape of the boots keeps you from using the surface area of your feet effectively for propulsion. Rapid stroking and kicking can eventually get you to the surface, but it is exhausting. Swimming and treading water while you are wearing these outfits, particularly the boots, is also exhausting. Therefore, I recommend removing the boots immediately, if no one is close by to help you or if you are not able to stand, grab something, or reach safety by swimming just a short distance. By holding deep breaths, you can float at the surface while removing the boots, which can easily be done after you have held them open to let them fill with water. Contrary to popular belief, water in your boots will not cause you to sink, since it is floating there to begin with and obviously does not become heavier upon entering your boots. If you are wearing waders, they can be quickly converted into a life preserver. After you allow them to fill with water, remove them and bring them to the surface upside down to drain most of the water. Hold the top of the waders on each side and work them behind you; then swing them rapidly overhead with the top held open and continue down into the water in front of you (fig. 3). At this point, there should be more than enough air in the legs of the waders to keep you afloat. If not, repeat this procedure. Then, holding the top underwater, you can slide between the legs of your emergency "wader wings" (fig. 4).

Figure 3.–Preparing to swing chest waders overhead to force air inside.

Figure 4.–Chest waders can save your life when used as "wader wings."

HEAD FIRST

When you fall into the water head first, air is trapped in your boots as well as your clothing. But, instead of causing you to float head down as you might think, it causes you to float like a log (fig. 5). The same thing occurs (provided you hold your breath) when you fall in head first while wearing trousers and a T-shirt instead of bulky clothing. Although in this instance no air is trapped in your clothing on the upper half of your body, plenty of air can be held in your lungs to keep your head afloat. By rolling on your back, you can float and breathe effortlessly for an extended period (fig. 6).

You need not be concerned about removing the boots and clothing immediately. Clothing, even in water, acts as an insulator. So, if you are in cold water, remove only as much as is necessary to enable you to swim to safety or to tread water with minimum effort until help arrives. Remember, if you are wearing bulky clothing, slow to moderate strokes are more effective and much less exhausting than fast ones.

Most important of all, you have a good chance of surviving if you think about what you are doing and what effect it is having on you.

At the first opportunity, take your gear to a swimming pool or the beach with a couple of buddies to act as lifeguards, and find out first hand exactly how easy it is to float and to remove your boots. It is fun, and it could save your life someday.

MS. # 2008

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Figure 5.–Air trapped in chest waders and clothing causes you to float like a log.

Figure 6.–Floating and breathing effortlessly with air trapped in chest waders and clothing.

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